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厦门大学

硕 士 学 位 论 文

# 北极地区的合作与竞争研究

# Studies on Cooperation and Competition over the Arctic Ocean

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# 摘要

近年来，越来越多的学者和媒体开始关注北极附近的国家之间争夺北极海域的石油和天然气资源的问题。北极冰山的日渐融化，使得进入北极海域油气资源的认可开采区、甚至是未认可开采区都更加便利。而新型科学技术的推广，则极大地减轻了北极恶劣气候对开采油气资源造成的不便。目前，加拿大、挪威、丹麦、美国和俄罗斯——即北极五国——正在激烈争论北极新融化海域的划界问题。同时，这些国家还相继出台了加强北极海域国防的政策。本文重点分析了北极油气资源开发的现状、有关国界划分的国际法、各国在北极地区的国防政策以及北极五国的国际军事关系等方面的问题。通过分析探讨得出结论：未来各国间关于北极油气资源的争夺战会逐渐缓和。究其原因，一方面北极油气资源的开发需要北极五国的大型石油公司加强合作，另一方面，目前北极五国的油气开采活动均遵循了有关国界划分的国际法(虽然美国对此法并不承认)。最后，本文认为各国在北极军事活动的增强，更多地是因为北极地区的人类活动(特别是航运和非常规威胁等)日趋频繁，而并非是经典囚徒困境的结果。尽管如此，北极地区仍然存在发生冲突的隐患，主要包括：(1)扩展专属经济区(EEZ)的划分；(2)美国不承认各国扩大开发范围的合法性；和 (3)关于开辟新航线的争论等。因此，为了加强北极油气资源开发方面的合作，北极五国需要拟定合理的合作条约，同时在国际法中增加适用于北极海域的“国际海峡”方面规定。



关键字：北极；石油和天然气；联合国海洋法公约

# Abstract

Many articles in the popular press suggest that there is a combative race between the five Arctic coastal states for the Arctic oil and gas. Indeed, the Arctic ice cap is melting, which facilitates the access to the huge proved and undiscovered oil and gas in the Arctic. New technology allows drilling in the harsh environment of the Arctic. Canada, Norway, Denmark, the United States and Russia – the Arctic 5 – are all debating over the boundaries' delimitations in the melting Arctic. Moreover, all Arctic 5 have released defense policies that call for the development of their military capability in the Arctic. This paper analyses the current situation of oil and gas exploitation in the Arctic, the international law regarding the boundaries' delimitation, the national Arctic defense policies, and the international military relations among the Arctic 5. It concludes that prospects for oil and gas conflict in the Arctic are low, since the exploitation of oil and gas in the Arctic often requires cooperation between major oil companies among the Arctic 5, and since the Arctic 5 are so far complying with the international law regarding the Arctic, even the United States that hasn't ratified the relevant law. Finally, militarization in the Arctic is more a result of increased activity, especially shipping and unconventional threat, than the result of a classic prisoner's dilemma. However, conflicts could arise in respect with (1) the delimitations of the extended Exclusive Economic Zones (EEZ), (2) the non-recognition by the United States of these extensions, and (3) the disputed status over the new sea routes. An Arctic Treaty between the Arctic 5 and an Arctic-specific definition of 'international strait' in international law could increase cooperation in the Arctic.



Key Words: Arctic; Oil and Gas; UNCLOS

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## List of Acronyms

| | |
|---|---|
| AMEC | Arctic Military Environmental Cooperation |
| ANWR | Arctic Wildlife Refuge |
| BBO | Billions of Barrels of Oil |
| BMEWS | Ballistic Missile Early Warning System |
| BP | British Petroleum |
| CARA | Circum-Arctic Resource Assessment |
| CLCS | Commission on the Limits of the Continental Shelf |
| DEW | Distant Early Warning |
| EEZ | Exclusive Economic Zone |
| EU | European Union |
| HSPD | Homeland Security Presidential Directive |
| IMO | International Maritime Organization |
| JFS | Joint Fighter Strike |
| NATO | North Atlantic Treaty Organization |
| NORAD | North American Air Defense Command |
| NPRA | National Petroleum Reserve Alaska |
| NSPD | National Security Presidential Directive |
| SAR | Search and Rescue |
| SLOC | Sea Lanes of Communication |
| TCMG | Trillions Cubic Meters of Gas |
| UNCLOS | United Nations Convention on the Law of the Sea |
| USGS | United States Geological Survey |
| USNORTHCOM | United States Northern Command |
| USSR | Union of Soviet Socialist Republics |
| WTO | World Trade Organization |

# Chapter 1 Introduction

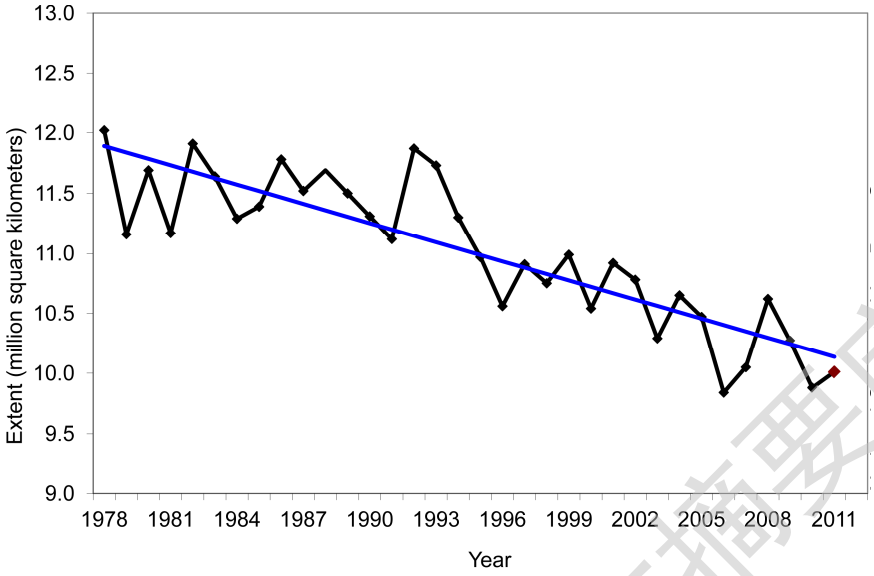
'In effect, the Cold War never ended in the Arctic Ocean' (Berkman, n.d., cited in Macalister, 2010).

'Thanks to international law, there is no race for Arctic resources' (Byers, 2009a).

Temperature in the Arctic is rising more rapidly than anywhere on Earth. The global average temperature during the last 33 years rose by 0.45 Celsius, while the atmosphere over the Arctic warmed up by 1.75 Celsius ('Global temperature record reaches one-third century', 2011). The difference in climate change between the Arctic and the rest of the world can partly be explained by the albedo effect: as the Arctic ice cap reflects 80% of the Sun's radiations, any reduction in its size due to global warming exposes the Sun's energy to water, which absorbs the heat, creating a positive feedback (Hood, 2011).

And the ice cap is melting. Since 1979, the average ice cap in November has lost about 13%, which represents 1.3 million square kilometres ('Winter in the Arctic: Ice and storms', 2011). In July 2011, the ice cap extent was 23% smaller than the average in July between 1979 and 2000 ('Early sea ice melt onset, snow cover retreat presage rapid 2011 summer decline', 2011).

**Figure 1: Average Monthly Arctic Sea Ice Extent: November 1979 to 2011**




Source: 'Winter in the Arctic: Ice and storms' (2011).

The retreat of the sea ice greatly facilitates the access to the Arctic Ocean seabed, where there are huge proved reserves of oil and gas. Different studies – including the 2009 United States Geological Society's (USGS) Circum-Arctic Resource Assessment (CARA) – also suggest that vast undiscovered oil and gas fields are below the Arctic seabed. Coupled with new technology that allows drilling in the Arctic seabed, major oil companies and Arctic states are looking forward to exploit the Arctic oil and gas. In some areas like north of Alaska and Norway, exploitation has already begun.

To allow the exploitation of fields, states sells territorial blocks to oil companies. However in the Arctic the delimitation of the seabed is only at the beginning of the process. States must submit their claims to the Commission on the Limits of the Continental Shelf (CLCS) under the United Nations Convention on the Law of the Sea (UNCLOS). Canada, Denmark, Norway and Russia have ratified UNCLOS, but not the United States.

At the same time, since the early 2000s all Arctic 5 states have released national defense policies for the Arctic. There is a clear militarization in the Arctic, which has paused after the end of the Cold War. Are the states developing their military capabilities in the Arctic to defend their territory and their resources? To defend themselves against a potential conventional threat? Is militarization in the